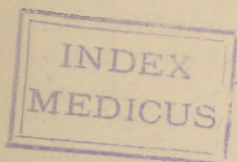


Haynes (F.L.) & (John R.)

[Reprinted from the AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF
WOMEN AND CHILDREN, Vol. XXII., No. 2.]



IRRIGATION OF THE PUERPERAL UTERUS:

ITS USES AND DANGERS.

WITH ESPECIAL REFERENCE TO THE TREATMENT OF
PUERPERAL FEVER.

BY

(FRANCIS L. HAYNES, M.D., AND JOHN R. HAYNES, M.D.,

Associate Professors of Gynecology in the College of Medicine of the University of
Southern California.



PUERPERAL FEVER IS SEPTIC FEVER.

WHEN the surgeon prevents the access of germs to wounds, they heal without suppuration or fever, whether of skin or bone, large or small, dry or filled with blood-clots. When, on the contrary, certain germs gain access to wounds, when they become *infected*, the least accident which may occur is suppuration; or inflammation may appear and spread over contiguous tissues or along the absorbents (lymphangitis, phlebitis, thrombosis), or septicemia or pyemia may result.

When the denuded surface of the puerperal uterus, or wounds of the genital canal, become infected, a precisely similar series of septic accidents may occur: the raw surfaces may suppurate, inflammation may extend to the tubes and through them to the

peritoneum, or along the lymphatics and veins (pelvic lymphangitis, cellulitis, peritonitis, phlegmon, crural phlebitis), and finally the blood may become infected (septicemia) or metastatic abscesses may occur (pyemia).

The obstetrician, like the surgeon, must prevent septic accidents. He must, by a frequent use of the thermometer, gain an early knowledge of their approach, and when present must treat them by a precisely similar plan.

PLAN OF TREATMENT OF PUERPERAL FEVER.

What is the action of a surgeon when a rise of temperature tells him that the wound has become infected? He removes the dressings, seeks the seat of infection, and disinfects it by antiseptic solutions; he evacuates all collections of fluid; if necessary all the recesses of the wound are irrigated. In all cases of puerperal fever, likewise, the infected portion of the genital canal must, if possible, be thoroughly disinfected. To qualify and amplify this statement is the object of this paper. Deposits of pus must be evacuated; pus-tubes must either be evacuated or extirpated; suppurative peritonitis must be treated by laparotomy, irrigation, and drainage. It may as well be conceded that, aside from these measures, we are almost powerless in puerperal septicemia. Antipyretics are merely symptomatic measures. The danger lies not so much in the fever itself as in the cause of the fever.

As intra-uterine irrigation is of undoubted benefit in so many of these cases, we should, where there is any doubt as to the propriety of its employment, give the patient the benefit of the doubt, and irrigate. Do not hastily decide that a given case is one of pure septicemia, that the poison has acted on the blood mass and is beyond the reach of local measures. You may be able to remove or disinfect matter still remaining in the uterus, and thus prevent a fatal addition of septic material to the blood.

CASE I.—*Septic Fever—Uterine Irrigation—Recovery.*—P., a primipara, aged 30, was delivered, in the absence of her physician, by one who was extremely dirty in his habits. Temperature and pulse gradually rose, and on the third day a severe chill occurred. Temperature 104°, pulse 130. No mastitis or pelvic inflammation; lochia normal.

The uterus was carefully explored by the finger and emptied of a small quantity of decidual fragments and blood-clots. The

uterus was irrigated once daily for three days. Each irrigation was followed by a permanent decrease in temperature and pulse rate. Rapid and complete recovery.¹

CASE II.—*Septic Fever with Metastatic Foci—Recovery.*—H., multipara. During the first stage an intoxicated neighbor, with very dirty hands, assiduously endeavored to aid dilatation of the os, and succeeded in producing a deep bilateral laceration. The physician arrived just as the child was born, and did not see the patient again until the third day. The temperature was 105° and it varied between 105° and 105.5° for three days. Then the range became lower by intermissions until the twenty-first day, when she became free from fever. Lochia normal. A minute examination showed nothing abnormal but the lacerated cervix. In the second week a large inflammatory nodule appeared on each forearm, and the metacarpo-phalangeal articulation of the right index became greatly inflamed and swollen. Septic-pneumonitis and pleuritis followed, but happily did not result in supuration. By the end of the sixth week recovery was perfect. The breasts at this time began to secrete milk. So admirable was the constitution of the woman that nature was even able to restore the function of the anchylosed metacarpo-phalangeal articulation. (One year afterward Mrs H. was delivered of her sixth child, and experienced no trouble.)

The treatment consisted of frequent vaginal injections of carbolized water; the uterus was irrigated with carbolized water three times, at intervals of twenty-four hours, after which it seemed perfectly clean. The intra uterine douche was then discontinued, but vaginal injections were continued twice daily for fourteen days. During the period of high temperature several half-drachm doses of quinia were given, but without marked effect. Of course nutrition was carefully attended to.

THE DIAGNOSIS OF PUERPERAL FEVER

Only concerns us here as affording indications for treatment. It depends upon the thermometer. Practically, fever during the puerperium is septic, with the exception of that due to mastitis, and this also is sometimes septic or is complicated with septicemia. Whatever our theories may be, it is our duty to treat *fever from mental emotion, aseptic fever, puerperal malarial fever, milk fever* as if they were of septic origin. It is perhaps too soon to assert that these forms of disease have no existence, but to our minds it is a significant fact that antiseptic precautions prevent them.

"The most encouraging result of the antiseptic measures employed," says Lusk, describing his experience in the New

¹ The histories used are from cases treated by our immediate associates or ourselves, excepting Cases V. and XV.

York Emergency Hospital, "has been the nearly uniform absence of even trivial temperature elevations."

INDICATIONS FOR IRRIGATION.

The temperature is taken morning and evening, by the nurse.

If any rise is noted, vaginal injections are used thrice daily (a gallon of hot water, followed by a pint of 1:4,000 sublimate solution, after which the patient is turned on the side, or more hot water is injected to prevent sublimate poisoning).

If the rise equals one degree or more, the patient is carefully watched and an evening visit is paid, especially if any other symptoms exist (chill, sweating, pelvic pain).

If the temperature reaches 101° , the uterus is irrigated and the vaginal injections are continued. If, after twenty-four hours, fever has not subsided somewhat, the uterus is again irrigated.

If the temperature does not reach 101° , but continues at about 100° for more than two days (notwithstanding vaginal irrigation), it is best to irrigate the uterus once thoroughly, unless the fever can be explained by a slight local inflammation originating in absorption from a denuded spot below the endometrium (as in lacerated cervix, etc.).

In acute pelvic or general peritoneal inflammation, the uterus is emptied and thoroughly irrigated once, and is afterward not disturbed unless a foul discharge is present.

If cases of puerperal fever have received timely treatment, and have not been grossly infected, from one to four uterine irrigations, given at intervals of twenty-four hours, will generally suffice. But if the disease is allowed to obtain a firm hold, or if gross infection has occurred, as evidenced by stinking discharge, or the appearance of diphtheritic membranes on the vagina or cervix, or by marked general symptoms, the whole utero-vaginal canal should be irrigated twice daily for a week, and perhaps every day or two for another week. Such cases will be almost unknown in the practice of careful men. Indeed, if antiseptic precautions are used, the necessity for uterine irrigation for sepsis will very rarely exist.

Why should we usually not irrigate more frequently than once daily? Because this little operation is sometimes followed by *symptoms precisely similar to those of septic fever*,

which symptoms sometimes persist for twenty-four or thirty-six hours. The danger is that we may be misled by these symptoms, and by too frequent repetition of the irrigation aggravate the patient's condition and bring discredit upon ourselves.

ILL EFFECTS SOMETIMES FOLLOWING INTRA-UTERINE IRRIGATION.

1. *Pelvic or abdominal pain* sometimes occurs during or after the operation. It may be due to retention of the fluid in the cavum of the sharply anteflexed womb, or to its passage through the tubes, or to perforation of the rotten walls of a diphtheritic uterus.

CASE III.—*Uterine Contractions due to Retention of Fluid.*—A., typical septicemia, immediately after irrigation was seized with violent labor pains. They lasted for twenty-five minutes, and were entirely relieved by a gush of colorless water, smelling of carbolic. Quick recovery.

CASE IV.—*Pelvic Peritonitis due to Passage of Fluid through the Tubes.*—M., immediately after the womb had been emptied of the placenta of a three-months fetus, received an intra-uterine injection with a single tube and ordinary bulb syringe. While the fluid was flowing she complained of moderate pain in the region of the broad ligaments, and the pulse became rapid. Within two hours fever was noted and the pelvic roof showed the typical "parchment induration" of pelvic peritonitis. After a month of severe illness, perfect recovery ensued. The uterus was not irrigated a second time.

CASE V.—*Septicemia of a mild type following Abortion at five months—Passage of Fluid through the Tubes.*¹—The reporter was fearful that some of the placenta had been retained. On the morning of the second day, temperature 100°; pain in the hypogastrium; utero-vaginal irrigation with carbolic solution; after ten hours, temperature 102°. C. "again began the use of the syringe with due caution, but had not compressed the bulb more than half a dozen times when his patient uttered a shriek, turned deadly pale, and sank upon her pillow in an almost lifeless condition. Pulse very weak. She complained of so much pain in her womb that he gave her a hypodermic of morphia." Next day the morning temperature was 104°, the evening temperature 105°. Uterine injections were resumed and continued without ill effect until the third week. Pyemia. Death on seventyeth day.

CASE VI.—*Unintentional Intra-uterine Irrigation—Pelvic Peritonitis.*—A woman whose uterus was prolapsed, so that the widely gaping os extended just beyond the introitus, received, as

¹ Chastain: Kansas City Medical Index, Dec., 1887, p. 505.

she supposed, a vaginal injection with a bulb syringe after a miscarriage. It was given by the husband, an awkward fellow, and a great deal of force was used. After one or two compressions of the bulb she screamed from intense pain, began to vomit and purge, and became collapsed. Large hypodermic injections of morphia and atropia were required for four days, during which she remained in an apparently dying condition, one very much resembling the cold stage of cholera. A few hours after the injection the uterus was found to be firmly cemented in its pro-lapsed position by peritoneal exudation. Recovery after prolonged and dangerous illness.

CASE VII.—*Probable Rupture of a Diphtheritic Uterus during Injection.*—N., primipara. Fever, headache, and a dusky hue of the skin were noted before confinement. Dr. I. arrived immediately after the birth of the child, and removed a partially adherent placenta. The uterus was very inert; fever, rapid pulse, and marked anxiety were noted. In twelve hours the pulse was 180, intermittent, and flickering. Digitalis, carb. ammonia, and turpentine were prescribed. In twenty-four hours; temperature 102°, pulse 120. The uterus was thoroughly explored and nothing found but some horribly offensive, brownish, granular matter and a large quantity of serous liquid, which were thoroughly washed out. Similar material continued to flow in large quantities from the vagina until death.

After thirty-six hours, temperature 103°, pulse 124. Vagina lined with thick, putrefying, diphtheritic membrane. Though carbolized vaginal injections had been used every two hours, and three uterine injections had been given, the gangrenous odor was almost intolerable. A long single tube was now inserted to the fundus, and while fluid was being forced with decided pressure, by means of a bulb syringe, the patient screamed "I am killed!" and complained of intolerable pain near the umbilicus. She soon sank into collapse, and expired in seven hours.

2. *Tinnitus aurium* is noted in about twenty per cent of patients while undergoing uterine irrigation, where a single tube is used. It often occasions great alarm. The sensation is probably due to reflex disturbance of the cerebral circulation. It is often noticed during the passage of the uterine sound or during ordinary intra-uterine applications; also before ordinary syncope and during the administration of nitrous oxide, when it is immediately followed by loss of consciousness. Should the irrigation be continued after the appearance of this symptom, the patient is apt to faint.

3. *Syncope*, with or without slight convulsions, occurs in about five per cent of cases in which a single tube is used. It is succeeded by alarming prostration which may last several hours.

CASE VIII.—H., primipara. Severe septicemia, with pelvic peritonitis; uterus inert and large, discharge stinking. While receiving an intra-uterine injection through a single tube with a bulb syringe, she was greatly alarmed by tinnitus. No attention was paid to her complaints, and she shortly became convulsed, and lost consciousness. She soon recovered consciousness, but remained in a semi-collapsed condition for several hours. On a subsequent occasion, injection was discontinued as soon as tinnitus was noticed, and fainting did not occur. Recovery after a prolonged illness; anchylosis of hip-joint from septic arthritis.

CASE IX.—A woman, not a puerpera, who was undergoing spontaneous cure by sloughing of a large mural fibroid, had a very terrifying attack of syncope while receiving an intra-uterine injection, given in the same unscientific way. Perfect recovery. The case was reported in the AMERICAN JOURNAL OF OBSTETRICS by one of us.

CASE X.—*Reflex Symptoms attending Injection of an Abscess of the Thyroid Gland.*—Immediately after receiving an injection of fluid extract ergot into the substance of a solid goitre, the patient vomited, purged, and almost fainted. An abscess now formed and was opened by a small incision in the median line. Frequent attempts were made to irrigate with a bulb syringe the abscess cavity, which was insufficiently drained. As soon as any of the injected fluid had accumulated in the cavity, the following symptoms were noticed: tinnitus aurium, faintness, extreme pallor, vomiting, purging, severe chill, high fever (100° – 104°) lasting sometimes three days, copious perspiration.

As irrigation of the immense cavity was indispensable, the difficulty was finally overcome by so holding apart the lips of the incision with a probe as to allow the fluid free exit. From this time recovery was rapid.

4. *Chills* of great duration and severity are very common after irrigation improperly performed, occurring in about one-fourth of such cases. They sometimes last half an hour, and are generally attended or succeeded by great rise of temperature (103° – 5°). These symptoms are often mistaken for those of septicemia, and the injections are given more frequently and violently, when on the contrary they should be given more cautiously and less frequently, or be discontinued. Quinia has no effect in preventing these chills.

CASE XI.—X., tedious labor terminated by forceps; inertia. Twelve hours after delivery of child, temperature 101° , pulse 115. Twenty-four hours, temperature 102° , pulse 120; uterine irrigation followed in half an hour by a severe chill. Thirty-six hours, temperature 102.5° , pulse 124; irrigation was followed in twenty minutes by chill. Forty-eight hours, temperature 101° , pulse 115; irrigation; chill in half an hour.

The temperature and pulse ranged from 100° to 102° and 100 to 120 for four days, but no more injections were given and no more chills occurred. Rapid recovery.

CASE XII.—*Chills caused by Irrigation mistaken for Puerperal Malarial Fever.*—In November, 1886, Dr. F. consulted one of us concerning a case under his care. A young woman had had an abortion, and the doctor, after removing the placenta, irrigated the uterus. Shortly afterward a severe chill occurred, followed by fever and profuse perspiration. Attributing the chill to malaria, then the fashionable disease, Dr. F. ordered large doses of quinia, and, as he was anxious about the case, made a point of visiting the patient just after the morning office hour and administered a uterine irrigation. Thus it happened that the patient had *a chill at the same hour for five days in succession*. At our suggestion, all treatment was discontinued, and recovery was immediate.

CASE XIII.—*Chills after Vaginal Injections.*—Primipara. Examined during first stage by two physicians, with unwashed hands. Both were attending suppurating wounds. Before labor was terminated she had slight fever. Vaginal douches were ordered and given for nine days; fountain syringe used. Fifth day: during and for four hours after injection, moderate pain in back and left broad ligament. One hour after injection, severe chill lasting fifteen minutes. Before injection temperature was nearly normal; ten hours after it was 102°, and twenty-two hours after 101°. It then became normal and remained so until the ninth day, when a vaginal douche was followed by the same symptoms. After fourteen hours fever disappeared, and there was no subsequent trouble.

As a careful examination detected nothing to account for the symptoms, they were believed to be reflex.

5. *Fever without chill* is sometimes noticed as a result of uterine irrigation.

CASE XIV.—*Diphtheritic Endometritis and Vaginitis.*—S., a primipara, was one of six patients attended by Dr. S., who suffered at or about the same time with puerperal diphtheria; all of whom we attended for Dr. S. Twelve hours after confinement the temperature was 103°, uterus large and painful; diphtheroid patches forming in vagina. She was etherized and the womb was emptied of about two ounces of fragments of decidua and blood-clots, and was thoroughly irrigated. Two hours after the uterus relaxed, and allowed bleeding to occur. This was checked by hot intra-uterine irrigation. The patient now passed through a somewhat severe attack of puerperal diphtheria. She was treated by tonics and stimulants, and by intra-uterine irrigation with carbolyzed water twice daily, and with vaginal injections every four hours. In ten days the local symptoms had disappeared (except that a mass, due to salpingitis, was felt in

the right broad ligament near the cornu uteri), but it was now noticed that each intra-uterine irrigation was succeeded by a rise of temperature varying from two to four degrees. Intra-uterine treatment was now suspended, and by another week the patient was free from fever, and five weeks after confinement was able to resume her household duties. Though a double tube was used in this case, yet the mistake was made of employing a bulb syringe.

6. Poisoning, from the use of carbolic and sublimate has probably occurred much more frequently than the journals would indicate. We have never seen a distinct case of either, but have sometimes thought that carbolic had produced slow poisoning. Carbolic need not be used in medicine or surgery except to purify instruments, and even for this purpose it is much inferior to boiling. Where it is used carboloria should always be looked for at every visit.

As for sublimate poisoning, it can probably be avoided by attention to certain precautions which will be enumerated hereafter. The indiscriminate use of this powerful germicide is to be deprecated. Some excellent authorities (Mundé, Doléris) advise that it should never be used in the uterine cavity.

CASE XV.—*Sublimate Poisoning*.¹—On the thirteenth day of a mild attack of septicemia (temperature 102°) with some pelvic inflammation, an intra-uterine injection of warm sublimate solution, 1:4,000, was given through Bozeman's double catheter. "Thirty minutes after injection, temperature 101.4°, followed in a short time by a terrible chill, when it seemed actually necessary to hold the patient in bed. Temperature 106°. . . . In fifty minutes temperature had fallen to 102°, leaving the woman extremely weak, and bowels moving very frequently with much hemorrhage." Recovery, after a tedious illness.

Note that nothing is said about the *quantity* of sublimate solution used. It is probable that intra-uterine sublimate irrigation has killed more women than it has saved.

The prominent lesion of sublimate poisoning is intestinal ulceration, and the symptoms are those to be expected with such a lesion.

A careful review of the causes leading to the above-described accidents shows that they may be classified under three heads:

1. Those due to the irrigation of the genital tract acting reflexly through the general nervous system. These cases resemble certain forms of urinary fever; as where a man suffering

¹ See New Orleans Medical and Surgical Journal, Jan., 1888, p. 534.

from stricture has a chill followed by high fever whenever a bougie is passed. Case X. is an instance of precisely the same pathological significance, but here the seat of irritation was in the thyroid region.

2. Those due to retention of fluid in the uterine cavity or its passage through the tubes.

3. Those due to poisoning.

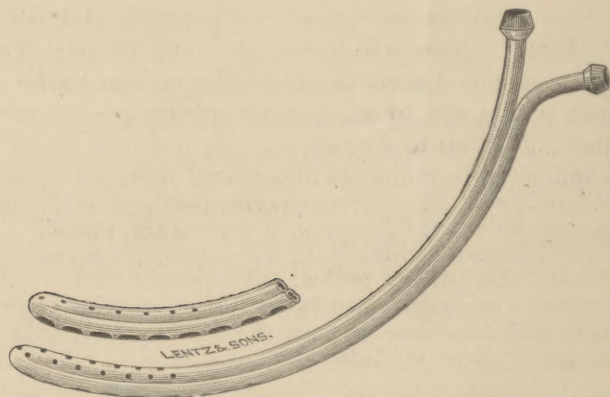
All these causes may operate in a single case to produce untoward symptoms.

Whatever the causes of these accidents, it is believed that they can be reduced to a minimum by the observance of certain precautions.

HOW TO IRRIGATE THE PUERPERAL UTERUS.

The instruments used are a fountain syringe holding a gallon, with a vaginal nozzle and a double uterine irrigation tube.

The tube we use was made by Lentz, 18 North 11th street,



Philadelphia. It is thirteen inches long, one and one-half inches in circumference, and is well curved. The openings for the entrance of fluid are small ($\frac{1}{8}$ inch diameter) and numerous and extend over about two inches of the upper surface of the end of the tube. Deep grooves on the sides and large openings ($\frac{3}{8} \times \frac{7}{8}$ inch) into the return channel, extending over five inches of the under lateral surfaces of the uterine end of the tube, provide for the free exit of the injected fluid. The larger the tube the less likely are we to have choking of the exit channel. A tube of smaller diameter is used to wash out the non-puerperal uterus after operations on its cavity, as curetting, etc.

First, instruments and hands are thoroughly scrubbed with soap and water, and soaked in tartaric-sublimate solution 1:500. The double tube must be boiled for half an hour before each irrigation, and afterward thoroughly cleaned with nail-brush. Clean out each hole carefully.

About three inches from the edge of the bed a small pillow is placed lengthwise, and over this an ample piece of rubber cloth so arranged as to form a spout passing into a bucket. The patient is placed across the bed, over the rubber cloth, the hips projecting slightly over the edge of the bed. The head and shoulders are comfortably supported by pillows; each leg is well wrapped in a separate blanket, the feet resting on two chairs placed widely apart. After the pudendal hair has been removed by scissors and the external parts thoroughly cleaned, the vagina is thoroughly cleaned by injecting a gallon or more of warm water, through a hard-rubber vaginal nozzle, the holes of which have been greatly enlarged by a penknife. After the vagina has been thoroughly cleaned, a quart of sublimate solution 1:4,000 is allowed to run into it. Take care that the cleaning process is extended into all the folds and recesses of the vagina and cervix, by moving the nozzle in all directions. This must not be left to the nurse.

Now the forefinger of the left hand (which has, as a matter of course, been thoroughly disinfected, warmed, and greased) is gently passed into the uterine cavity, the palm of the hand hugging the anterior vaginal wall, and if necessary the uterus being pressed gently downward. If any foreign matter, as clots or membranes, are detected, the patient is etherized, the well-greased hand is inserted into the vagina, and one or two fingers into the uterus, which is gently but thoroughly emptied by repeated crooking motions of the fingers, adhesions to the endometrium being separated by gentle scraping with the finger-nail.

The uterus having been thoroughly emptied, or having been found empty, the left forefinger is again inserted past the marked flexure always existing in the puerperal uterus at or near the internal os, and the double tube passed along it to or near the fundus. *No force must be used.* The procedure greatly resembles the passage of a sound into the male bladder. The flow is started before the tube is inserted to prevent the entrance of air.

Nothing but pure hot water should be used until the genital canal is thoroughly cleaned. Then a quart of tartaric-sublimate solution 1:8,000 may be used, and should be followed by more hot water.

The tube is allowed to remain for a few seconds, so that all fluid may drain from the uterus. The patient is then turned well over on her side, so that the vagina may empty itself.

The vaginal lesions should now be thoroughly dusted with iodoform (or, if diphtheria exists, the patches, according to Lusk, should be painted with equal parts of a mixture of persulphate of iron and compound tincture of iodine), and a hollow suppository holding half a drachm of powdered iodoform pushed well into the uterus.

TO AVOID SUBLIMATE POISONING.

1. Where intra-uterine irrigation is used in the absence of sepsis, use no sublimate, but plain hot water, or salt and water.

2. If the urine is albuminous and scanty, use no mercury.

3. If the urine is slightly albuminous and copious, or if the patient is profoundly anemic, do not use more than a pint of a solution of 1:8,000.

4. Always use tartaric acid and sublimate tablets or powders; dissolve thoroughly in a small quantity of water and mix carefully with a definite quantity of hot water in a pitcher, from which pour into the irrigator.

5. Always use fountain syringe, and for the uterus a double tube, so as to insure the return of the solution. If for any reason the fluid fails to run out as fast as it flows in (if not through the reflux tube, by way of the channels at its sides), shut off the flow. The irrigator should not be raised more than three feet.

6. Precede by copious irrigation with hot water to wash out blood, etc., which may form with sublimate adhesive albuminous compounds, which may in time be absorbed. Follow by a quart or two of hot water to insure the evacuation of all the sublimate solution.

¹ Campbell, Twenty-first and Pine streets, Philadelphia, makes the only really good tablet in the market. It is composed of sublimate about 4 grains, and tartaric acid about 20 grains. One to a pint = 1:2,000. This formula, which is Laplace's, may of course be imitated by any apothecary and put in powder form in waxed paper. It has very great advantages over other formulæ. (This compound is highly germicide, is very soluble, is not incompatible with ordinary water, does not coagulate albumen.)

7. For the uterus use a solution not stronger than 1:8,000 and not more than a quart once daily.

8. For the vagina use a solution not stronger than 1:4,000 and not more than a quart twice daily.

Irrigation used in the above way is, we believe, a practice almost devoid of danger. We have made more than one hundred and seventy-five irrigations with the double tube and fountain syringe, with no untoward results except in two cases an unimportant rise of temperature, and in one a severe but harmless chill, and even these slight accidents we feel certain might have been avoided by greater care. Yet irrigation of the puerperal uterus will always be a procedure requiring great care and judgment and some skill.

Enough has been said to make it evident that our opinion coincides with that of Cr  d   and Fehling, that *both vaginal and uterine irrigation are attended with undoubted dangers, and should never be employed in the puerperal state unless to meet definite indications.*

No paper is considered complete without some statistical evidence. The following table, made from notes of cases occurring in the practice of one of us, is appended, not as affording proof of the positions taken, but rather as showing how often it was necessary in a large mixed practice to have to resort to intra-uterine irrigation. The series contains three times as many difficult cases as usual, and a number of the cases were delivered for midwives and for other practitioners in consultation. While attending these cases, the physician visited all sorts of contagious diseases, including erysipelas, and did many surgical operations in septic cases. The cases include all under his charge from May 22d, 1883, to June 4th, 1884. It may be added that, though nominally in charge, he was actually present during delivery in but two of the cases which subsequently suffered from septicemia.

135 successive cases of confinement.

15 forceps deliveries—one craniotomy, one version for placenta previa.

No maternal deaths.

Six cases of septicemia:

1 very slight, rapid recovery with vaginal irrigation.

1 very slight, rapid recovery with one uterine irrigation.

1 very slight, rapid recovery with one uterine irrigation.

14 HAYNES: *Irrigation of the Puerperal Uterus.*

1 very slight, rapid recovery with one uterine irrigation, after removal of membranes from the uterine cavity.

1 very slight, rapid recovery with two uterine irrigations.

1 marked, rapid recovery after removing membranes and making six uterine irrigations.

1 severe, recovery in six weeks, with three uterine irrigations.

